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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/555,445

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Deug Hee Lee

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09/19/2011

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EXAMINER

WHATLEY, KATELYN B

ART UNIT

PAPER NUMBER

1714

MAIL DATE

DELIVERY MODE

09/19/2011

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/555,445	Applicant(s) LEE ET AL.	
	Examiner KATELYN WHATLEY	Art Unit 1714	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 15 June 2011.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ An election was made by the applicant in response to a restriction requirement set forth during the interview on ____; the restriction requirement and election have been incorporated into this action.
- 4) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 5) ☒ Claim(s) 1-16, 19, 20 and 22-28 is/are pending in the application.
- 5a) Of the above claim(s) 1-9 and 23-28 is/are withdrawn from consideration.
- 6) ☐ Claim(s) ____ is/are allowed.
- 7) ☒ Claim(s) 10-16, 19, 20 and 22 is/are rejected.
- 8) ☐ Claim(s) ____ is/are objected to.
- 9) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 10) ☐ The specification is objected to by the Examiner.
- 11) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 12) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. ____. |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>8/12/2011, 04/04/2011</u> . | 6) <input type="checkbox"/> Other: ____. |

DETAILED ACTION

1. This action is in response to applicant's amendments and arguments filed 06/15/2011.
2. Claims 10-16, 19, 20, and 22 are currently pending for examination.

Response to Amendment

3. The Claim Objections and the 35 USC 112 rejections made in the office action dated 03/15/2011 have been withdrawn in light of the amendments to the claims.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

6. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation

Art Unit: 1714

under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

7. Claims 10, 11, 13-16, 19, and 22 are rejected under 35 U.S.C. 103(a) as being unpatentable over USPGPub 20050132503 to YANG ET AL.

8. With regard to claim 10, YANG teaches a method of operating a laundry device (paragraph 0010) comprising generating steam from water (0012 and 0013), supplying the steam to an inside of a drum where laundry is contained (0012 and 0013), stopping the supply of steam after a predetermined period of time (0036 and 0037), and rotating the drum at a high speed after the supply of steam has stopped (0012, 0013 and 0034).

9. YANG does not explicitly state that the steam is supplied to soak the laundry and contaminants of the laundry. However, YANG teaches that it is desired that all portions of the laundry are directly exposed to steam (0037). A skilled artisan would have known that by directly exposing all portions of the laundry to steam for a predetermined amount of time, the laundry would be soaked.

10. YANG teaches the drum being rotated at a high speed, but remains silent as to the drum being rotated at a speed higher than 2000 RPM. However, a speed of rotation is result effective because it affects the distribution of laundry in the drum and the amount of energy being used by the operation of the laundry device. Since applicants did not provide any criticality regarding the recited parameter, one skilled in the art would have found obvious to optimize the rotational speed of the drum through routine

Art Unit: 1714

experimentation for optimum cleaning result, consult In re Boesch and Slaney 205 USPQ 215 (CCPA 1980) and (MPEP 2144.05 II).

11. The teachings of YANG do not explicitly state that the steam soaked contaminants would be centrifugally separated from the laundry. However, since YANG teaches rotating the drum with laundry at a high speed, a skilled artisan would have known that centripetal acceleration would cause the contents of the drum to separate according to density. One with ordinary skill in the art would know that the contaminants would have a different density than the laundry, therefore making it inherent that the contaminants would centrifugally separate from the laundry during high speed rotations.

12. With regard to claim 11, YANG teaches the method according to claim 10 but does not explicitly teach the temperature of the supplied steam being higher temperature than the laundry may be sterilized. However, one of ordinary skill in the art would have known that YANG would be supplying the steam into a drum with a lower temperature than the steam, therefore the steam would lose energy and heat by the time it contacted the laundry. The steam would have to be supplied at a higher temperature than the desired temperature of the laundry to achieve effective cleaning. One with ordinary skill in the art at the time the invention was made would have known to use a higher temperature steam at the exit to achieve the desired cleaning temperature in the laundry device.

13. With regard to claim 13, YANG teaches the method according to claim 10. YANG teaches the drum being rotated at a high speed, but remains silent as to the drum being rotated at a speed between 2000~4000RPM. However, a speed of rotation is result

Art Unit: 1714

effective because it affects the distribution of laundry in the drum and the amount of energy being used by the operation of the laundry device. Since applicants did not provide any criticality regarding the recited parameter, one skilled in the art would have found obvious to optimize the rotational speed of the drum through routine experimentation for optimum cleaning result, consult *In re Boesch and Slaney* 205 USPQ 215 (CCPA 1980) and (MPEP 2144.05 II).

14. With regard to claim 14, YANG teaches the method according to claim 10. Furthermore, YANG teaches rotating the drum at a lower speed than the rotation speed to discharge steam in the drum (0037).

15. With regard to claim 15, YANG teaches the method according to claim 14. YANG teaches the drum being rotated at a low speed, but remains silent as to the drum rotating at a speed lower than 100RPM. However, a speed of rotation is result effective because it affects the distribution of laundry in the drum and the amount of energy being used by the operation of the laundry device. Since applicants did not provide any criticality regarding the recited parameter, one skilled in the art would have found obvious to optimize the rotational speed of the drum through routine experimentation for optimum cleaning result, consult *In re Boesch and Slaney* 205 USPQ 215 (CCPA 1980) and (MPEP 2144.05 II).

16. With regard to claim 16, YANG teaches the method according to claim 14. YANG remains silent as to the time for discharging the steam being shorter than the time for rotating the drum. However, the rotation and steam discharge times are result effective because they affect the amount of washing fluid and detergent concentration in the

Art Unit: 1714

washing period. Therefore, a skilled artisan would have found it obvious to optimize the step times of the control method through routine experimentation for optimal cleaning times and dirt removal.

17. With regard to claim 19, YANG teaches the method according to claim 10.

Furthermore, YANG teaches spraying fluid detergent to the laundry before supplying steam (0026).

18. With regard to claim 22, YANG teaches the method according to claim 10.

YANG teaches the drum being rotated at a low speed, but remains silent as to the drum rotating at a speed lower than 100RPM. However, a speed of rotation is result effective because it affects the distribution of laundry in the drum and the amount of energy being used by the operation of the laundry device. Since applicants did not provide any criticality regarding the recited parameter, one skilled in the art would have found obvious to optimize the rotational speed of the drum through routine experimentation for optimum cleaning result, consult *In re Boesch and Slaney* 205 USPQ 215 (CCPA 1980) and (MPEP 2144.05 II).

19. Claim 12 is rejected under 35 U.S.C. 103(a) as being unpatentable over USPGPub 20050132503 to YANG ET AL as applied to claim 10 above, and further in view of USPGPub 20040187527 to KIM ET AL.

20. With regard to claim 12, YANG teaches the method according to claim 10 but remains silent as to the laundry being fully soaked by the steam. However, it is known in the art to supply steam into a laundry device to soak the laundry, as taught by KIM (0062). It would have been obvious to one of ordinary skill in the art at the time the

Art Unit: 1714

invention was made to modify the method taught by YANG to let the laundry being fully soaked, as taught by KIM, to allow for the laundry to reach the desired cleaning effect.

21. Claim 20 is rejected under 35 U.S.C. 103(a) as being unpatentable over USPGPub 20050132503 to YANG ET AL in view of USPGPub 20010049847 to YARMOSKY.

22. With regard to claim 20, YANG teaches the method according to claim 19. YANG teaches the spraying of fluid detergent but does not teach the detergent being supplied as concentrated detergent. However, it is known in the art to use concentrated detergents as taught by YARMOSKY (0012). It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the method taught by YANG to have concentrated detergent as suggested by YARMOSKY to be more environmentally friendly since concentrated detergents have reduced shipping costs.

Response to Arguments

23. Applicant's arguments filed 06/15/2011 have been fully considered but they are not persuasive.

24. In response to applicant's arguments that it would have been outside a skilled artisan skill level to rotate a drum at more than 2000RPM in the invention of YANG; however it is known in art of washing machines that drums can be rotated at speeds higher than 2000RPM, as taught by USPN 7380423 to MUSONE (col 4 ln 53-61). A skilled artisan would have known that an increase in RPM would increase centrifugal force and thus increasing the contaminant removal, which would make the RPM a result

Art Unit: 1714

effective variable that would be obvious to optimize to obtain the desired contaminant removal.

25. Applicant argues that YANG does not teach high speed rotation of the drum after the stopping of the supply of steam to the washing machine; however YANG clearly teaches that drum is rotated after the steam supply is stopped (0034). A skilled artisan would have known that the wash cycle, rinse cycle, spin-dry or dry cycles of YANG would each warrant rotations of the drum and would not require the supplying of steam. As stated above, the rotation speed is result effected and would be selected based on desired centrifugal force.

26. Applicant argues that in the method taught by YANG, the centrifugal separation of contaminants is not intended; however it is noted here that the instant step of the method merely requires the rotation of the drum at a high speed as an active step. The limitation reciting 'to separate centrifugally the contaminants soaked with steam from the laundry' is merely a recitation of the result of the rotation. A skilled artisan would have known that this would inherently occur when the rotation of YANG occurs.

27. As such, claims 10-16, 19, 20 and 22 stand rejected.

Conclusion

28. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not

Art Unit: 1714

mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to KATELYN WHATLEY whose telephone number is (571)270-5545. The examiner can normally be reached on Monday-Friday 9:00-5:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael Kornakov can be reached on (571)272-1303. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Application/Control Number: 10/555,445

Page 10

Art Unit: 1714

/KATELYN B WHATLEY/

Examiner, Art Unit 1714

/Michael Kornakov/

Supervisory Patent Examiner, Art Unit 1714